61.(New) The communication system according to Claim 60, wherein the interface comprises a common bus for transmitting data and commands between the master and the card, and at least one select signal, each of said select signal connecting the master to one of said card.

62.(New) The communication system according to Claim 61, wherein the select signal is not used when the master is running under the MultiMediaCard protocol.

63.(New) The communication system according to Claim 61, wherein the common bus comprises a command line, a data line, and a clock line when the master is running under the MultiMediaCard protocol.

64.(New) The communication system according to Claim 61, wherein each of the select signal is used for selecting the corresponding card when the master is running under the Serial Peripheral Interface protocol.

65.(New) The communication system according to Claim 61, wherein the common bus comprises a data-in line, a data-out line, a clock line when the master is running under the Serial Peripheral Interface protocol.--

REMARKS

These remarks are in response to the Office Action mailed on October 2, 2000, and for which a two-month extension is hereby requested. In that Office Action, all of the pending claims, claims 1-27, were rejected. Claims 1, 10-13, and 22-25 were rejected under 35 U.S.C. 102(b) as being anticipated by Iijima, U.S. Patent No. 5,349,949, with the remaining claims rejected under 35 U.S.C. 103(a) as being unpatentable over by Iijima, U.S. Patent No. 5,349,949. The original independent claims, claims 1, 11, and 23, have been amended to make their distinction over the prior art clearer. Additionally, new claims 28-65 have been added.

The Office Action is correct in that both the present application and the Iijima '949 patent are concerned with the problem of a memory card and a master that may need to communicate with each other through one of several different protocols. Where the present application and the Iijima '949 patent differ is in their solutions to the problem. In particular,

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in Iijima the *host* selects the protocol used in response to a query from the card in a software implemented solution that assumes all of the available protocols can use a shared reset sequence on a single physical bus; while in the present application the *card* selects the protocol in a manner transparent to the host in a hardware implemented solution based upon pin configuration and using distinct busses for the different protocols.

Iijima relies on a single physical bus for all protocols (specified here at column 3, lines 30-31 as ISO/IEC DIS 7816-3, or "smart card"). Although the particular standard employed is not particularly relevant, what is important for the operation of Iijima is the underlying assumption that all the protocols can use the same bus, whatever it is. This is not an accurate assumption for all protocols, in particular for the example of MMC and SPI protocols.

The process Iijima uses to select the protocol is described with respect to its Figures 2A and 2B, with Figure 2B treating the case of two protocols (A and B) supported on the card. The description of Figure 2B is from column 4, line46, to column 5, line 58: "Data communication processing of IC card 1 under the condition that IC card 1 supports two different communication protocols and *one of them can be designated by the external device*...[emphasis added]". This is a software implemented solution that the CPU 7 reads from ROM 2 and which relies on all of the protocols being able to share a common explicit reset and a single sequence; that is, a common language to start and to select protocol. This is also not an accurate assumption for the combination of MMC and protocols.

This process in Iijima begins with determining whether the card supports multiple protocols in ST1 of Figure 2A, and which leads to Figure 2B along the "NO" path if it does. As a result, the card returns a protocol ID, i.e. out-put answer to reset, and then sends either A, B, or both. This is, depending on STP14, either STP15-STP17 or STP21-STP23. In either case, the card is responding with both of protocols A and B to test with which the host responds. This response from the host is the "PTS data" of STP18 and STP24: "If the received data is the protocol selection data (PTS) data, CPU determines (step ST19) whether the PTS data is data for designating protocol B." (column 5, lines 5-7)

Based on this PTS data, the host then selects the protocol it will use to communication with the card. The communication of the external device with the card is described in Iijima from column 3, line 32, to column 4, line 2. The description makes it clear (column 3, lines 57-59) that "one of the plurality of protocols supported by the IC card is selected by the external device." Thus, the process consists of the card determining which

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protocols it supports, asking the host which one of these it wants to use, and then letting the *host* decide.

The present invention operates differently and is not subject to many of the underlying assumption found in Iijima. In particular, it assumes neither that all the protocols can use the same bus nor that the protocols can share a common explicit reset.

As shown in Figures 1 and 3, and described particularly in the "BUS TOPOLOGY" section beginning on page 8, line 27, the present application employs different physical busses for each protocol. Figure 1, described beginning on page 3, line 15, shows the MMC arrangement and figure 2, described beginning on page 4, line 27, shows the SPI arrangement.

Each of these buses has a separate reset command for the distinct protocol that they employ. This is described in the "MODE SELECTON" section of the present application beginning on page 6, line 28. Based upon these reset signals, the *card* selects the protocol. Thus, there is nothing corresponding to Iijima's "protocol designating" command whereby the *host* selects the protocol. Thus, in the present invention, the host does not need to know about the protocols beyond knowing what it speaks: the card judges by the reset command sent by host and responds accordingly. Based upon pin configuration and reset the card can see what host is speaking at power up.

This process is described, for example, on page 5, lines 12-18:

> The present invention is directed to a multi-mode card design so that the card according to the present invention is able to communicate with hosts running in different communication protocols. The selection of communication mode is detected and determined by the card at the initialization. Specifically, the host does not need to provide the card with additional mode information. By simply plugging the card to the host, the card can detect, determine, and operate in either one of these two modes of operation.

Independent claims 1, 11, and 23 as originally written all contained a limitation similar to that of claim 1 that the "card is capable of adapting to the master running one protocol...". As described above, in the present application, this is "by performing the mode selection in the card(s) only, the entire mode selection is transparent to the host"(page 7, line19-20), rather than Iijima's process where the host decides. Although these claims are believed to describe this distinction, and are consequently allowable, in their original form, they have been amended to remove any ambiguity. For example, the last clause of claim 1 now reads:

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wherein said card is capable of adapting to the master running one protocol selected from a plurality of communication protocols by selecting said one protocol.

The other independent claims, claims 11 and 23, have been similarly amended to make it clear that the *card* selects the protocol. Therefore, all of pending claims 1-27 are believed allowable.

New claim 28 is based on original claim 13 and includes the limitation that the "adaptation of the card...is transparent to the master". As described above, this is not the case in Iijima as there the host itself must choose the protocol. New claims 29-38 all have claim 28 as their base claim.

New independent claim 39 and, consequently, its dependent claims 40-50 are all drawn to the use in the present application of distinct buses for the different protocols. New claims 51-65 are drawn to the choice of protocol being implemented through the hardware arrangement of the present invention. As described above, these differ from Iijima which is a software implementation requiring the differing protocols to be able to share a common set selection signals on the same bus.

For any of these reasons, reconsideration of the Office Action's rejection of claims 1-27, and consideration of new claims 28-65, is therefore respectfully requested, and an early indication of their allowability is earnestly solicited.

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Respectfully submitted,

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